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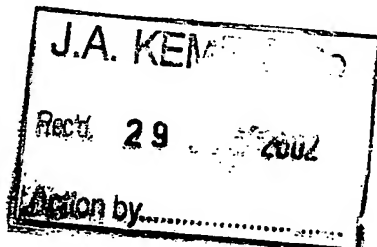
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Anmelder/Applicant/Demandeur/Patentinhaber/Propriétaire/Titulaire

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COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☒ abstract

☒ title

☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract: NONE

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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X	EP 0 236 879 A (NAT STARCH CHEM CORP) 16 September 1987 (1987-09-16) * claims; examples 2-10,19 *	1-4	
X	WO 96 19536 A (ZENECA RESINS BV ;PETERS ANTONIUS CAROLUS IDA AD (NL); OVERBEEK GE) 27 June 1996 (1996-06-27) * page 6, line 29 - line 34; claims; examples 3-5 *	1-4	
A	EP 0 331 143 A (MITSUI TOATSU CHEMICALS ;OJI PAPER CO (JP)) 6 September 1989 (1989-09-06) * claims; examples 8,9,C9 *	1-6	
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Place of search THE HAGUE		Date of completion of the search 12 July 2002	Examiner DE LOS ARCOS, E
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 02 25 1441

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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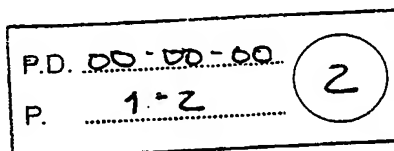
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AN 130:298036 HCA
 TI Manufacture of copolymer dispersions with bimodal particle size distribution, the dispersions, and coating compositions containing them
 IN Inoue, Toshihiro
 PA Nippon Zeon Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08F246-00
 ICS C08F002-18; C08F002-24; C08F212-02; C08F214-06; C08F218-08; C08F220-00; C08F236-04; C09D157-04; C08F246-00; C08F220-04
 CC 42-7 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 37



FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11106442	A2	19990420	JP 1997-289109	19971006
AB	The dispersions are manufd. by the following 2 steps: (1) suspension polymn. of monomers contg. 0.1-10% ethylenically unsatd. carboxylic acids and 90-99.9% other monomers using oil-sol. polymn. initiators and (2) emulsion polymn. of monomers contg. 0.1-10% ethylenically unsatd. carboxylic acids and 90-99.9% other monomers in the presence of emulsifiers and water-sol. polymn. initiators in the dispersions obtained by the process 1. Thus, a monomer mixt. comprising styrene 50, 2-ethylhexyl acrylate 49, and acrylic acid 1.0 part was polymd. in H2O using AIBN, mixed with an emulsion contg. the monomer mixt. and Na dodecylbenzenesulfonate, and polymd. using (NH4)2S2O8 to give a polymer dispersion contg. 75:25 large (1050-1530 nm) particles and small (120-130 nm) particles. The dispersion was mixed with CaCO3, Na tripolyphosphate, thickener, antifoaming agent, and H2O to give a coating showing solids content 73.8%, viscosity 220 P, and drying time h.				
ST	polymer dispersion manuf suspension emulsion polymn; bimodal particle size distribution polymer dispersion; coating dispersion manuf suspension emulsion polymn; styrene acrylate copolymer dispersion manuf				
IT	Coating materials (dispersion; prepn. of copolymer dispersions with bimodal particle size distribution for coatings)				
IT	Polymerization catalysts (emulsion; water-sol.; prepn. of copolymer dispersions with bimodal particle size distribution for coatings)				
IT	Polymerization (emulsion; prepn. of copolymer dispersions with bimodal particle size distribution for coatings)				
IT	Emulsifying agents (in emulsion polymn.; prepn. of copolymer dispersions with bimodal particle size distribution for coatings)				
IT	Particle size distribution (prepn. of copolymer dispersions with bimodal particle size distribution for coatings)				
IT	Polymerization catalysts (suspension, oil-sol.; prepn. of copolymer dispersions with bimodal particle size distribution for coatings)				
IT	Polymerization (suspension; prepn. of copolymer dispersions with bimodal particle size distribution for coatings)				
IT	9014-90-8, Polyoxyethylene nonylphenyl ether sodium sulfate 25155-30-0 Sodium dodecylbenzenesulfonate				

RL: NUU (Other use, unclassified); USES (Uses)
(emulsifier in emulsion polymn.; prepn. of copolymer dispersions with bimodal particle size distribution for coatings)

IT 78-67-1, Azobisisobutyronitrile 94-36-0, Benzoyl peroxide, uses
7727-54-0, Ammonium persulfate

RL: CAT (Catalyst use); USES (Uses)
(initiator; prepn. of copolymer dispersions with bimodal particle size distribution for coatings)

IT 25085-19-2P, Acrylic acid-2-ethylhexyl acrylate-styrene copolymer
26588-88-5P, Acrylic acid-butadiene-2-ethylhexyl acrylate-styrene
copolymer 56480-51-4P, Acrylic acid-2-ethylhexyl acrylate-methacrylic
acid-styrene copolymer 77496-02-7P, Acrylic acid-butyl acrylate-
2-ethylhexyl acrylate-styrene copolymer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)
(prepn. of copolymer dispersions with bimodal particle size
distribution for coatings)